

Career Clusters

Science, Technology, Engineering and Mathematics is one of the 16 Career Clusters identified by the U.S. Department of Education and adopted by the State of Alabama. These Career Clusters represent more than 79 career pathways with the purpose of assisting students in navigating their way successfully in college and careers.

The Alabama Department of Labor further defines these career pathways by selecting common occupations with related education requirements, work experience, wages and typical training needed, as defined by the U.S. Bureau of Labor Statistics. Included in this pamphlet are the high skilled, high demand, and high wage occupations associated with Science, Technology, Engineering & Mathematics.

Employment

ALABAMA STATEWIDE SELECTED OCCUPATIONS	TOTAL EMPLOYMENT		
	Occupation	2012	2022
Surveying and Mapping Technicians	1,030	1,160	30
Chemical Technicians	970	1,070	35
Electrical and Electronic Engineering Technicians	1,990	2,150	55
Electro-Mechanical Technicians	60	60	0
Nuclear Technicians	70	70	5
Architectural and Civil Drafters	1,240	1,230	15
Industrial Engineering Technicians	890	970	25
Aerospace Engineers	3,250	3,700	10
Industrial Engineers	3,760	4,220	155
Electrical Engineers	4,130	4,590	135
Chemists	1,040	1,140	40
Microbiologists	750	800	25
Materials Engineers	420	430	15
Environmental Scientists and Specialists, Including Health	1,170	1,290	45



Science, Technology, Engineering & Mathematics

Planning, managing and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Education

HIGH SCHOOL OR LESS

Surveying and Mapping Technicians  

SOME COLLEGE - ASSOCIATE'S DEGREE

Chemical Technicians  
 Electrical and Electronic Engineering Technicians  
 Electro-Mechanical Technicians  
 Nuclear Technicians  
 Architectural and Civil Drafters  
 Industrial Engineering Technicians  

BACHELOR'S DEGREE AND ABOVE

Aerospace Engineers  
 Industrial Engineers  
 Electrical Engineers  
 Biological Technicians  
 Chemists  
 Materials Engineers  
 Environmental Scientists and Specialists, Including Health  

Typical On-the-Job Training Needed to Attain Competency	Work Experience in a Related Occupation
None	 More than 5 years 
Short-term On-the-Job Training	 1 to 5 years 
Moderate-term On-the-Job Training	 Less than 1 year 
Long-term On-the-Job Training	 None 
Apprenticeship	
Internship/Residency	

Earnings

ALABAMA STATEWIDE SELECTED OCCUPATIONS	SALARY		
	Occupation	Entry	Average
Surveying and Mapping Technicians	\$24,040	\$36,165	\$42,227
Chemical Technicians	\$27,043	\$43,373	\$51,538
Electrical and Electronic Engineering Technicians	\$36,782	\$56,157	\$65,844
Electro-Mechanical Technicians	\$38,784	\$49,156	\$54,342
Nuclear Technicians	\$36,789	\$59,631	\$71,052
Architectural and Civil Drafters	\$32,202	\$46,470	\$53,603
Industrial Engineering Technicians	\$37,603	\$57,511	\$67,466
Aerospace Engineers	\$72,317	\$104,728	\$120,933
Industrial Engineers	\$58,313	\$81,325	\$92,830
Electrical Engineers	\$61,709	\$91,045	\$105,712
Biological Technicians	\$25,035	\$37,709	\$44,046
Chemists	\$45,842	\$70,737	\$83,184
Materials Engineers	\$64,784	\$95,027	\$110,148
Environmental Scientists and Specialists, Including Health	\$38,516	\$58,634	\$68,693

Career Snapshot

The occupations reporting the highest average salaries require a Bachelor's degree or higher, no work experience in a related occupation, and no on-the-job training. These occupations include Aerospace Engineers, Materials Engineers, and Electrical Engineers.

The occupations reporting the highest average annual openings include Industrial Engineers, Electrical Engineers, and Electrical & Electronic Engineering Technicians. Electrical & Electronic Engineering Technicians require some college to an Associate's degree. Industrial Engineers require a Bachelor's degree or higher for entry into the occupation.

Career Clusters

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communications
- Business Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing
- Marketing, Sales & Service
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

For more information regarding
Career Clusters, visit:
www.careertech.org/career-clusters
www.altechprep.org/clusters.html

For Occupational Videos, visit:
www2.labor.alabama.gov/videos



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*Average Annual Salary Source:
Wage data based on the May 2014 OES Employment & Wage File,
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Career and Technical Education Section.

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A glance into the world of...



Science, Technology,
Engineering & Mathematics

Alabama Department of Labor
Labor Market Information Division

